Distinguished Research Chair Professor Jong-Shenq Guo from Math Department Awarded Merit Research Fellow by National Science and Technology Council

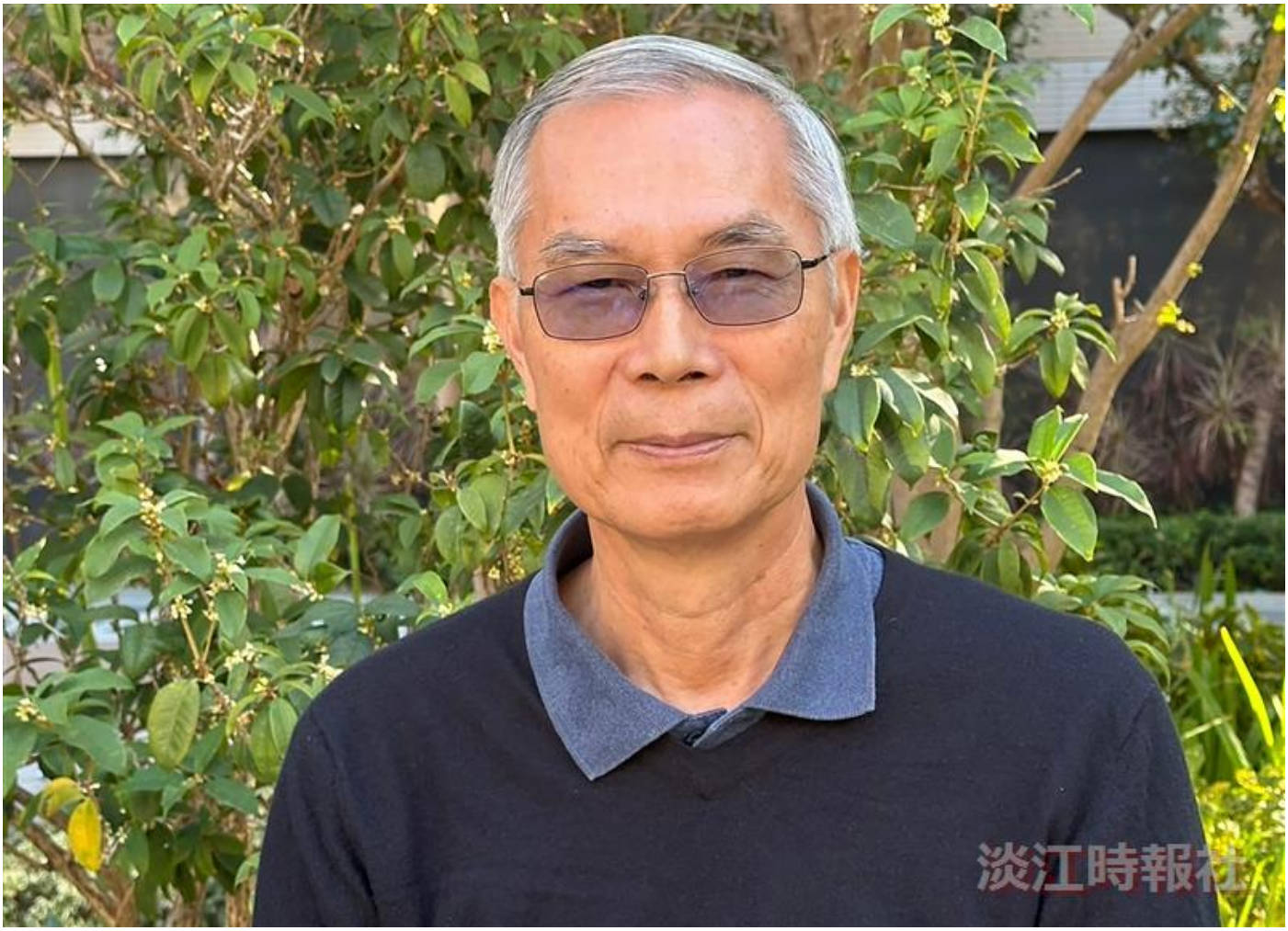
Campus focus

The National Science and Technology Council (NSTC) held its Academic Research Awards Ceremony on April 29 at the International Convention Center of National Taiwan University Hospital. Jong-Shenq Guo, Distinguished Research Chair Professor in the Department of Applied Mathematics and Data Science at Tamkang University and Director of the College of Science's Center for Mathematical Biology, received the 2025 "Merit Research Fellow" award in recognition of his long-term excellence in academic research. The honor not only marks a significant milestone in his research career but also makes him the first faculty member from Tamkang University to receive this distinction.

The NSTC's "Merit Research Fellow" is awarded to scholars who have received the NSTC Outstanding Research Award at least twice and have conducted special research projects for a cumulative period of six years or more. Guo previously received the Outstanding Research Award in mathematics in 2010 and 2016. Dedicated to fundamental research for many years, he has also repeatedly been listed among Elsevier's Mendeley Data "World's Top 2% Scientists," appearing multiple times in both the "Career-Long Scientific Impact" and "Single-Year Scientific Impact" rankings. This latest recognition is widely regarded as well-deserved.

Guo's research focuses on mathematical biology, using mathematical analysis to investigate dynamic behaviors in natural science problems. He explained that although mathematics is abstract, applying mathematical theories to solve real-world problems requires creativity and insight. One of his representative research topics examines the spatiotemporal dynamics of biological reaction-diffusion systems under climate change. Using mathematical models such as the Fisher-KPP equation, he analyzes how species migrate or survive under continuously changing environmental and

climatic conditions, thereby predicting ecological trends. For example, warming climates may drive mosquitoes toward higher latitudes, potentially increasing the spread of infectious diseases. His research demonstrates the practical value of mathematics in public health and environmental issues.
Regarding the honor, Guo stated that although the path of academic research is challenging, it is nevertheless a lifelong pursuit worthy of dedication and perseverance. He expressed gratitude to the National Science and Technology Council for its long-term support of his research, as well as to Tamkang University for providing an excellent research environment and resources that have enabled him to focus on academic exploration.
Guo also emphasized that research achievements are rarely the result of individual effort alone, but rather emerge through teamwork and collaboration. Although mathematics research does not involve physical laboratories in the same way as experimental sciences, the Center for Mathematical Biology that he leads has long maintained collaborations with international research teams in Japan, France, and the United States. Through academic exchange and discussion, these collaborations continually generate new research ideas. He expressed appreciation to all his research partners over the years, noting that the sharing of knowledge and intellectual exchange has allowed the team's research to continue advancing.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